

CA
GEOZY, Gy.

Some new nitrogen-containing derivatives of the dipeptide of salicylic acid. György Gézy (Útbor Akkumulatórgyár, Budapest, Hung.). *Magyar Kém. Folyóirat* 57, 108-109 (1951). Several unknown substituted derivs. of salicyloylsalicylic acid were produced by the method previously described (cf. *ibid.*, 51-53, 3 (1945-47)). Another procedure was also used. The azo deriv. of salicylic acid (1.1 mols.) is dissolved in 2.2 mols. 2.0 N NaOH. Care must be taken to maintain the liquid only slightly alk. to avoid decomposition of the salicyloyl chloride. The liquid is cooled to -10° , stirred, and 1 mol. salicyloyl chloride or a deriv. in soln. is added drop by drop, the mixt. is dil. to about 5 times its vol., slightly acidified with a dil. HCl or dil. H₂SO₄, allowed to stand several hrs., and washed with dil. acid and water. The following benzene acids were produced by this method: 90% 2-salicyloyloxy-3-(p-nitrophenylazo), m. 113 $^{\circ}$; 30.3% 2-salicyloyloxy-3-(1-naphthylazo), m. 67 $^{\circ}$; 57.3% 2-(3,5-dinitrosalicyloyloxy)-3-(phenylazo), m. 170 $^{\circ}$; 48.7% 2-(3,5-dinitrosalicyloyloxy)-3-(p-nitrophenylazo), m. 155 $^{\circ}$; and 31.3% 2-(3,5-dibromosalicyloyloxy)-3-(p-nitrophenylazo), m. 181 $^{\circ}$ (darkens). The 2-(3,5-dinitrosalicyloyloxy)-3-amino (138 $^{\circ}$), m. 111 $^{\circ}$ (darkens), and 84.5% 2-(3,5-dibromosalicyloyloxy)-3-aminobenzon acid, m. 188 $^{\circ}$ (darkens), were prept. at 40-50 $^{\circ}$ instead of -10° . István Fényes

GECZY, György

Distr: 4E3d/4E2c(j)

New method for the preparation of aralkylaminopyridines. György Géczy (Kőbányai Gyógyszerárnyazó, Budapest): *Magyar Kém. Folyóirat* 62, 102-3 (1950).—To 12 g. NaNH₂ in 75 ml. dry toluene 28 g. 2-aminopyridine in 60 ml. dry toluene is added gradually with stirring, the mixt. gradually heated to mild boiling and maintained at this temp. 3 hrs. with stirring, cooled, 32 g. benzyl alc. in 25 ml. dry toluene added dropwise, the mixt. mildly boiled 3 hrs., on cooling 150 ml. H₂O added dropwise, the aq. layer extd. with toluene, the toluene solns. extd. with 600 ml. 1:4 HCl, and neutralized with NaOH yielding 83.8% 2-benzylaminopyridine, m. 94°. Several modifications of the procedure are described and the synthesis of the following compds. is reported: 76% 6-methyl-2-benzylaminopyridine, m. 87°; 54% 6-methyl-2-(p-chlorobenzylamino)pyridine, m. 98°; 76% 6-methyl-2-(p-methoxybenzylamino)pyridine, m. 125-6°; and N-benzylaniline, bp. 140-3°. A. Lasso

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Jeff

GECZY, Gyorgy

New process for the quantitative determination of vitamin A.
Allattenyesztes II no.2:187-191 JI '63.

1. Phylaxia Allami Oltoanyagtermelo Intezet, Budapest.

TOTH, B.; GECZY, G.; LAKITS, G.; BARSY, G.

Characteristic feathering disorder observed in chickens fed with vitamin D₃ deficient diet. Acta veter Hung 14 no.1:57-62 '64.

1. Phylaxia State Serum Institute (Director: J. Molnar), Budapest,
and State Institute of Hygiene (Director: T. Bakacs), Budapest.

HUNGARY

KISS, Jozsef, Dr, GECZY, Gyorgy, Dr; Central Head Station of Artificial Insemination (director: ~~MESZAROS~~, Istvan, Dr, cand. of vet. sci.) (Kozponti Mesterseges Termekenyt Foallomas), and Phylaxia State Institute of Vaccine Production (director: MOLNAR, Jozsef, Dr) (Phylaxia Allami Oltoanyagtermelo Intezet), Budapest.

"Examination of Standardized Sperm Diluents Produced in Hungary."

Budapest, Magyar Allatorvosok Lapja, Vol 21, No 11, Nov 66, pages 492-493.

Abstract: [Authors' English summary modified] In order to simplify and facilitate the work of laboratories of the artificial inseminating stations and to consolidate the results of inseminations, the domestic production of a standard bull-sperm diluent was judged to be necessary. In the course of production and testing of the domestically made experimental materials, the preparation marked Ph5 - containing 2.9% Na citrate (5 1/2 H₂O), 1 mg% KH₂PO₄ and 1% gelatine - was found to be better than the diluent used currently, which contains 2.9% Nacitrate (2 H₂O), and to be equal to the West German Spermasol-T both in laboratory and field tests. 2 Hungarian, 2 Western references.

1/1

Distr: 4E2c(j)/4E3b/4E3d

466/60.

678.5—498.3 : 632.133

Rheological studies with macromolecular substances, VIII. The interaction of dissolved polymer and solvent as shown by viscosity measurements. Z. Csűrös, I. Góczy, M. Gara, I. Gyurkovics. *A Magyar Tudományos Akadémia Kémiai Tudományok Osztályának Közleményei*, Vol. 13, 1960, No. 2, pp. 129—131, 2 figs., 1 tab.

The viscosity changes of solutions of styrene, vinyl acetate and methylmethacrylate polymers were studied in different solvents *s. g.* in the polymer's own monomer or in its saturated analogous compound. Such solvents were sought which show the smallest interaction with the polymer and a good solvent was looked for with which molecular weight could be determined. The suitability of the solvent was characterized by the intrinsic viscosity. With all three polymers, solutions having the lowest intrinsic viscosity were obtained when the solvent was the corresponding unsaturated monomeric compound. The sequence of solvents according to cohesion energy density was found to be the same as the sequence of increasing intrinsic viscosities. A relationship was established between the molar intrinsic viscosities and the molar volumes of the solvents.

8
J-BW(MR)
J-Jaf(NB)(May)
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GECZY, I., dr.; BERCSENYI, L.Gy.; KOVACS, J.

Testing the factors influencing the pigment fixation.
Magy textil 16 no.10:462-465 0 '64.

GECZY I.

181720

HUNGARY/Chemistry - Catalysts

1951

"Mechanism and Kinetics of the Hydrogenation of Stereoisomeric Ethylene Carboxylic Acids," in German, Z. Ceuros, I. Geczy, M. Kelpert, Org Chem Tech Inst, U Tech Sci Budapest

"Acta Chimica Academiae Scientiarum Hungaricae" Vol I, No 1, pp 22-45

Hydrogenated maleic, fumaric, and cinnamic acids with palladium-animal charcoal catalyst. Examn as dependent on catalyst quantity showed also change in order of reaction between zero and fractional value, not proportional to catalyst

181720

HUNGARY/Chemistry - Catalysts (Contd)

1951

quantity, but also with max and min values. Hydrogenation rate const is greatest when order of reaction approaches zero. With lowering of concn of substance, hydrogenation rate const increases. Reaction product retards hydrogenation by repressing adsorption both of substance and of hydrogen.

181720

GECZY I.

HUNGARY/Chemistry - Catalysts (Contd) 1951
of substrate concn and by hydrogenation without
solvents. In the case of octene-2 without sol-
vent, max-min curve disappeared and gave place
to monotonous function.

Examined kinetics and mech of catalytic hydrogenation
reaction of double bonds with respect to hydrogen
pressure, and retarding effect of reaction prod-
uct under these conditions. Modified course of
max-min curve and studied by systematic variation

"Acta Chimica Acad Sci Hungaricae" Vol I, No 1,
pp 168-181

Role of the Hydrogen Pressure in the Kinetics and
Mechanism of Catalytic Hydrogenations," in English,
Z. Csuros, I. Geczy, T. Nogradi, Org Chem Tech
Inst, U Tech Sci, Budapest

HUNGARY/Chemistry - Catalysts 1951

181725

GECZY, ISTVAN

HUNG.

Catalysts. X. Rate and selectivity of hydrogenation of sunflower oil in the presence of nickel formate catalyst. Zoltán Geczy, István Geczy, and Dénes Szabó (Tech. Univ. Hung. Inst.). *Acta Chim. Acad. Sci. Hung.* 2, 31-51 (1962) (in English); cf. C.A. 48, 2005f. —A soln. of 110 g. Na_2CO_3 in a little H_2O was added slowly to a boiling soln. of 250 g. $\text{NiSO}_4 \cdot 7\text{H}_2\text{O}$ in 500 g. H_2O ; the resulting ppt., after washing with H_2O until neutral, was dissolved in 80-100 g. HCO_2H , boiled, and filtered, giving 101 g. (98%) green cryst. $\text{Ni}(\text{HCO}_2)_2$ (I) after drying at 100° . Treatment of a Ni salt with HCO_2Na gave I in 84% yield. The catalytic activity of I was not reduced by the presence of an Fe impurity but was increased by reduction of the particle size to 10,000 mesh/sq. in. Heating of a 1:1 suspension of I and refined sunflower oil (II) at $245-50^\circ$ for 15-20 min. in a vacuum gave a black oily suspension of Ni which was washed 3 times by decantation with five-fold its vol. of petr. ether; removal of all traces of solvent in a vacuum desiccator (to which air is then admitted slowly over 0.5 day to prevent destruction of the Ni during glowing) and sifting of the ppt. through a 10,000 mesh/sq. in. sieve, gave a catalyst (III) consisting of 50% Ni in adsorbed oil. III is stable when stored in a glass-stoppered bottle. The rate of hydrogenation of II with 0.4% (optimum amt.) III increased by raising the temp. from 160° to 200° and declined above 200° . An induction period was present at $120-40^\circ$. By controlling the rate of hydrogenation, II could be selectively reduced so that only 1 of the double bonds in the linoleic acid became satd. Selectivity increased with larger quantities of III up to 0.8% and with a rise in temp. up to 220° ; above this temp. and concn., selectivity declined. M. Jacobson

GEOZY, I.

V. A new method for the determination of dyes. ¹⁵ E. Bencs and I. Gécsy. *Magyar Textiltech.* 1954, 370-2; *Hung. Tekn. Adatr.* 7, No. 3, 17-18 (1955).—In order to study the economical utilization of dyes, the mechanism of dyeing, and the dye properties of dyes, the concn. of the dyes in the dye bath must be precisely measured. Many difficulties are involved by the prevailing methods of titration. An error of 1% owing to the app. must be taken into account when applying the colorimetric method. Therefore the relative analytical error can rise to 3.5-4%. The principle of the new titrating method is that certain dyes possessing org. anions (acid, direct dyes) form compds. insol. in water, but sol. in certain org. solvents. With this method hexadecylpyridinium bromide (I) has been applied as a cation-contg. compd., the solvent being CHCl_3 . The dye dissolved in water and titrated with I migrates from the aq. soln. into the CHCl_3 . At the end of the titration, one drop (0.015 ml. with a microburet) of the titrating soln. suffices to sep. sharply the 2 liquids, and the aq. soln. becomes discolored. The relative analytical error does not exceed 1%.

K. L. G.

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Geczy, I.

105. A new method for the quantitative determination of dyes — P. Henc, I. Geczy. (*Magyar Textiltechnika* — 1956, No. 10, pp. 270-272, 2 tabs.)

In order to study the economical utilization of dyes, the mechanism of dyeing and the dyeing properties of dyes, the concentration of the dyes in the dye baths must be precisely measured. Many difficulties are involved.

by the prevailing methods of titration. An error of 1% due to the apparatus, must be taken into account when applying the colorimetric method. Therefore the relative analytical error can rise to 3.5-5%. The principle of the new titrating method is that certain dyes possessing organic anions (acid, direct dyes) form compounds insoluble in water but soluble in certain organic solvents. With this method cetyl pyridinium bromide has been applied as a cation-containing compound, the solvent being chloroform. The dye dissolved in water and titrated with cetyl pyridinium bromide migrates from the aqueous solution into the chloroform. At the end of the titration, one drop (0.015 ml with a microburette) of the titrating solution suffices to sharply separate the two liquids and the aqueous solution becomes discoloured. The relative analytical error does not exceed 1%.

GECZY, I.

✓ Investigations on catalysts. XV. Polymerization and catalytic hydrogenation as concurrent reactions. G. Geczy and I. Salanki (*Acta chim. Hung.*, 1953, 8, 283-294). Both methylacrylate and Et acrylate can be polymerized with catalytically activated H at 18° in absence of per-compounds, but acrylonitrile, styrene and vinyl acetate can be polymerized similarly only in presence of a per-compound (e.g., 0.05 g. of K₂S₂O₈ per g. of ester). Hydrogenation and polymerization are probably concurrent reactions in these redox systems, the concn. of H⁺ at the catalyst surface and the relative rates of hydrogenation and polymerization determining which reaction is dominant. In presence of very high concn. of H⁺, hydrogenation occurs, but polymerization takes place at low concn. of H⁺. The formation and influence of free radicals of H in these reactions is discussed. W. J. BAKER.

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GECZY, ISTVAN

HUNGARY/Chemistry of High-Molecular Substances.

I

Abs Jour: Ref. Zhur-Khimiya, No 11, 1958, 38484.

Author : Mondvai Imre, Geczy Istvan

Inst : Not given.

Title : Block Polymerization of Methacrylate with the Aid
of Systems of Initiator-Activators.

Orig Pub: Magyar Ind akad Kem tud oszt kozl, 1956, 7, No 2,
153-164.

Abstract: See RZhKhim, 1957, 41351.

Card : 1/1

HUNGARY/Organic Chemistry. General and Theoretical Problems
of Organic Chemistry.

G-1

Abs Jour: Ref. Zhur.-Khimiya, No II, 1958, 36083.

Author : Csuros Z., Geczy I., Morgos J.

Inst : Not given.

Title : Study of Catalists. XIV. Catalitic Oxidation of N-Cymol
at Room Temperature.

Orig Pub: Magyar Tud. akad. Kem. tud. oszt. kozl., 1956, 7,
No 2, 199-211.

Abstract: No abstract.

Card : 1/1

GEELY, L.

✓ Synthetic linear polymers? II. The viscometric determination of the molecular weight of superpolyamides in aqueous chloral hydrate. Istvan Kuszak, Istvan Olgyi, and Andras Ady (Univ. Budapest). *Kolloid. u. Textiltech.* 7, 499-50 (1958). Mol. wt. detns. of polyamides can be carried out in 70% aq. $\text{CCl}_3\text{CH}(\text{OH})_2$ (I) in lieu of $m\text{-Me-C}_6\text{H}_4\text{OH}$ (II). By means of the av. values of the degree of polymerization (D.P.) of unfractionated samples of polyamides obtained in II the following relation between the limiting viscosity and the av. D.P. in 70% I at 20° is obtained: $[\eta] = 1.996 \times 10^{-4} \times \text{D.P.}$ P. B. Brauns

1 PM
5 May

Maths

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GECHY, 2

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1 PM
2 May

Meth

Synthesis of a polymer. I. Block polymerization of methyl methacrylate at 37° using initiator-activator systems. I. Mendel and I. Gezy (Acta chim. Hung., 1958, 10, 111-124). The block polymerization of methyl methacrylate is investigated at 37° using Ba_2O_3 as initiator and various amines as activators. The Brinell hardness of the product, after evaporation of unconverted monomer, decreases as the rate of polymerization increases. The rate of reaction is obtained from the time of hardening to the point where polymer separates from the glass. The initial rate is measured by withdrawing a sample after 220 min. and precipitating and weighing the polymer. The different amines have different optimum concn. above which the rate drops again. The most effective is 2,4-diamino-4'-methoxydiphenylamine. No activation by amines is observed with <2% of Ba_2O_3 .

Am on

A. B. DENHAM

18. Investigations on catalysts. XIV. Catalytic oxidation of *p*-cymene at room temperature. (In English) Z. Csátsi, I. Décsy, J. Morgós. *Acta Chimica Academiae Scientiarum Hungaricar.* Vol. 10, 1960, No. 1-3, pp. 193-206, 9 figs., 10 tabs.

The oxidation reaction of *p*-cymene have so far been investigated by a few research workers; the process was studied chiefly in the gas phase and less frequently in the liquid phase, but in both cases at elevated temperatures. The present work was undertaken in order to provide further information regarding the heterogeneous catalytic oxidation of *p*-cymene at room temperature. It was found that *p*-cymene could be oxidized at room temperature in a heterogeneous system (liquid phase) in the presence of a catalyst. Palladium charcoal catalyst was used in the liquid phase oxidations (in carbon tetrachloride solutions) whereas palladium on barium sulphate catalyst was found advantageous for the reactions carried out without solvent (in the solid phase). An "induction period" was observed in the latter case. A maximum-minimum type curve was obtained by plotting the maximum oxygen consumption vs. the amount of catalyst employed. It was found that no oxidation reaction took place in the presence of copper oxide on barium sulphate catalyst. By choosing an adequate substance as reference substrate the present experimental technique may be useful for the determination and comparison of the activities of the various antioxidants used industrially.

GECZY, I.

Distrs 4E2c(j)

4. A rheological study on high-molecular materials. 1.
(In German) Z. Csűrös, I. Geczy, M. Gfösz-
mann, K. Tuhász. *Periodica Polytechnica, Chemical*
Engineering. Vol. 1, 1957, No. 2, pp. 105-129, 13 figs.,
13 tabs.

The flow curves, pour points, elasticity and hardness
of typographical ductor rolls made of gelatine and starch
were determined by means of a Hocppler consistometer.
It was found that the Herschel-Bulkley equation

$\left(\frac{\partial \tau}{\partial t} = A (\tau - \tau_0)^n\right)$ is valid for the quasi-viscous curves

and flow curves of both materials where $n < 1$ for gelatine-
based roll materials and $n > 1$ for starch-based substances.
The starch material stands up to compressive stresses
in practice better than the gelatinous substance and
the consistency of the former changes considerably less
with the increase of temperature. The elastic properties
of the starch-containing material are more favourable
than those of the gelatinous substance since the former
undergoes greater immediate and lesser delayed and per-
manent deformation. The starch-containing roll material
is plasto-elastic below 40°C and visco-elastic above this
temperature. The corresponding characteristic tempera-
ture for the gelatinous material is 30°C.

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Distr: 4E2c(j)

5. A rheological study on high-molecular materials. II.
(In German) Z. Csürös, M. Groszmann, I.
Géczy, K. Tuhász, *Periodica Polytechnica, Chemical Engineering*, Vol. 1, 1957, No. 3, pp. 203-215, 3
figs., 5 tabs.

The rheological behaviour of pastes composed of
PVC F and dialkyl phthalate-type plasticizers was
studied as a function of the preparation time, speed of
mixing and time of storage. The PVC pastes examined
are quasi-viscous materials. If mixing is quicker during
the paste preparation the viscosity of the product will
be increased. Viscosity is increased also by longer periods
of mixing, the relative maximum being obtained with
50-60 min. of mixing. It seems that under such circum-
stances fragments break away from the surface of the
swollen PVC particles as a result of the shear stresses
produced by the mixing and newer surfaces become avail-
able for the swelling action of the plasticizer. The viscos-
ity of the pastes constantly increases during storage
also. This increase greatly depends upon the plasticizer
content of the paste and on the time of preliminary mix-
ing. The effect of the time of mixing on the viscosity
of the pastes is greater than that of the length of storage.
A mixing time of 60 min. can be regarded optimal since
the viscosity of pastes made this way change the least
during storage.

6- May

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I. Geczy

Distr: 4E2c(j)

6. A rheological study on high-molecular materials. III.
(In German) Z. Csűrös, M. Grossmann, I. Geczy, V. Spiegel. Periodica Polytechnica, Chemical Engineering, Vol. 1, 1957, No. 3, pp. 217-221, 2 tabs.

The molecular weight of polyethylene was determined by viscosimetry. The viscosity of non-fractionated polyethylene samples of known molecular weight was measured in liquid paraffin at 85 and 140°C. The values of K and a were obtained by compensating computation from the limiting viscosity $[\eta] = K \cdot M_w^a$, the value of which again was obtained by compensating computation. The results are the following: at 85°C $K = 2.898 \cdot 10^{-4}$, $a = 0.7762$; at 140°C $K = 2.766 \cdot 10^{-4}$, $a = 0.5103$. The following relationships were found between the limiting viscosity and molecular weight: $85^\circ [\eta] = 2.898 \cdot 10^{-4} \cdot M_w^{0.7762}$; $140^\circ [\eta] = 2.766 \cdot 10^{-4} \cdot M_w^{0.5103}$.

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Gedzy, II.

SYNOPSIS / High Molecular Chemistry.

Ref. 10962

Authors

Ref. 10962

Title

Orig. Pub.

Abstract

SYNOPSIS / High Molecular Chemistry.

Ref. 10962

duration of stirring, and time of storage, on properties of pastes prepared from poly(vinyl chloride) powder and different plasticizers of the diallyl phthalate series. For this purpose a determination was made of the viscosity curves of the preparations under study. Shear stress was measured in the interval 10-300 g/cm^2 , dilatation rate varied between 0.1-5 cm/sec . Flow velocity of the pastes in the study is not proportional to shear stress. Viscosity of poly(vinyl chloride) pastes prepared with similar stirring. This difference is observed with increasing content of poly(vinyl chloride) in the paste. Viscosity is also increased with increased duration of stirring. After stirring for 50-60 minutes, the increase in viscosity reaches maximum value. Change in

SYNOPSIS / High Molecular Chemistry.

Ref. 10962

viscosity on standing depends on composition of paste and the duration of stirring at the time of preparation. Duration of stirring at the time of preparation. Duration of stirring has a considerably greater effect than length of storage of the paste. III. On the other hand, the same paste was used to determine characteristics of the pastes. The samples of poly(vinyl chloride) pastes were prepared from purified oil (poly(vinyl chloride) containing 20-21 g/cm^3 and 100%). The following correlations were found: η_{sp}/C and η_{sp}/C at 100°C at 80°C η_{sp}/C = 2.766 $\cdot 10^{-3}$ g^{-1} cm^3 at 100°C. Part I, see Kibula, 1956, 72856. - 3. Kibula.

Card 3/3

257

I.

HUNGARY/Chemistry of High-Molecular Substances.

Abs Jour : Ref Zhur - Khimiya, No 9, 1958, 31285

Author : Rusznak, I., Geczy, I., and Rapasi, M.

Inst : -
Title : Synthetic Linear Polymers. III. The Development of Methylmethacrylate-Ethylene Glycol-Maleic Naphthylate Copolymers which Harden at Room Temperature and Some of Their Properties.

Orig Pub : Magyar Tud Akad Ken Tud Oszt Kozl, 8, No 2-3, 247-252, 1957, (in Hungarian)

Abstract : Insulating resins hardening at 25° were obtained from ethylene glycol, maleic (I) and phthalic (II) anhydrides, and methylmethacrylate. The ratio of unsaturated polyesters to comonomer used was 70:30 and the ratio of benzoyl peroxide initiator to diethyl aniline (promoter) was 1:0.25. Optimum chemical resistance is obtained when the unsaturated polyester fraction of the resin is

Card 1/2

63

" HUNGARY / Physical Chemistry. Kinetics. Combustion. B-9
Explosives. Topochemistry. Catalysis.

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 76756.

Author : Csueroes, Z., Geczy, I., and Keresztely, T.

Inst : Not given.

Title : Catalytic Studies. VIII. Change in the Reaction
Order in the Hydrogenated Compound During Cata-
lytic Hydrogenation.

Orig Pub: Magyar Tud Akad Kem Tud Oszt Koezl, 9, No 2,
195-205 (1957) (in Hungarian).

Abstract: On the basis of previously published data on the
catalytic hydrogenation of cinnamic, maleic, and
fumaric acid, the authors arrived at the conclu-
sion that in the course of the hydrogenation the
order of the reaction in the hydrogenated com-

Card 1/2

HUNGARY / Physical Chemistry. Kinetics. Combustion. B-9
Explosives. Topochemistry. Catalysis.

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 76756.

Abstract: pound increases in the majority of cases from 0
to 0.6. In isolated cases when very small amounts
of catalyst are used the order of the reaction
does not change. For communication XVII see
RZhKhim 1958, 57600.

Card 2/2

60020, 1.
HUNGARY/Chemistry of High Molecular Substances.

I.

Abs Jour : Ref Zhur - Khimiya, No 14, 1958, 49173

Author : Istvan Rusznak, Istvan Geczy, Endre Ady.

Inst : -

Title : Synthetic Linear Polymers. II. Viscosimetric Determination of Superpolyamide Molecular Weight in Aqueous Chloral Hydrate Solution.

Orig Pub : Magyar kem. folyoirat, 1957, 63, No 12, 348-350

Abstract : The possibility of molecular weight determination of polyamides in 70%-ual chloral hydrate aqueous solution was established. The constants of the dependence equation of the characteristic viscosity on the polymerization degree were computed based on the values of mean polymerization degrees of non-fractionated polyamides measured by the viscosity in m-cresol. The equation has the form $[\eta] = 8.22 \cdot 10^{-2} P_n^{0.5}$. See report I in RZhKhim, 1957, 41351.

Card 1/1

19

HUNGARY/High Molecular Chemistry.

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Abstr Jour: Ref Zhur-Khim., No 2, 1959, 7027.

Author : IV: Ballo, Rudolf; Geczy, Istvan. V: Rethy, Eszter;
Geczy, Istvan. VI: Geczy, Istvan; Rethy, Eszter.

Inst :
Title : Synthetic Linear Polymers. IV. Changes in Process of
Condensation and in Mechanical Properties of Cast Resins
from Phenol-Formaldehyde Plastic Depending on Composition
of Reaction Mixture. V. Effect of Tetraallyldiaminodiaryl
Activators on Polymerization of Mixture of Methylmethacry-
late with Polymethylmethacrylate in Presence of Benzoyl
Peroxide. VI. Effect of Concentration of Initiator and
Activator on Starting Rate of Block-Polymerization of
Methylmethacrylate.

Orig Pub: Magyar kem. folyoirat, 1957, 63, No 12, 351-357; 1958,
64, No 1, 19-23; 24-29; Makromolek. chem., 1958, 25,
No 3, 176-185; 186-198.

Card : 1/4

HUNGARY/High Molecular Chemistry.

I

Abs Jour: Ref Zhur-Khin., No 2, 1959, 7027.

IV. The dependence of properties of cast resins from phenol-formaldehyde plastic on the molecular ratio of phenol and formaldehyde was studied. It was established that the impact viscosity of a bar with an incision, the hardness, the rupturing elongation and the heat resistance of a resin prepared from a reaction mixture phenol - formaldehyde in the molecular ration of 1 : 2 are greater than those of resins prepared from said mixtures in the molecular ratio of 1 : 2 [sic!]. The magnitude of the above mentioned properties is the greatest in the case of resins prepared from the reaction mixture in the ratio of phenol to formaldehyde equal to 1 : 2.5 and in the presence of 1 - 1.5% of the catalyst. Further increase in the amount of the catalyst

Card : 2/4

KHUNGK/High Molecular Chemistry.

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Abs Jour: Ref Zhur-Khin., No 2, 1959, 7027.

influences the mechanical properties of the forming resins but insignificantly.

V. The accelerating effect of aromatic tertiary diamines (Michler's ketone, tetraethylbenzidine, tetra-methyldianinobenzhydrol, p-aminodimethylaniline, tetra-ethylbenzidine, p-aminodiethylaniline and others) on the polymerization of methylmethacrylate initiated by benzoyl peroxide was studied. The reaction rate was determined by measuring the internal friction of the reaction mixture with a microplastermeter of Gepler
[transliteration from Russian]

VI. The block-copolymerization of methylmethacrylate initiated by the system benzoyl peroxide - dimethyl-

Card : 3/4

9
 ✓ Polymerization through catalytically activated hydrogen.
 Z. Csuros and I. Géczy (Tech. Univ., Budapest, Hung.).
 Periodica Polytech. 2, 65-68 (1958).—Some unsatd. compds.
 were polymerized in the presence of H and a hydrogenation
 catalyst. Thus, Me methacrylate, Me acrylate, and Et
 acrylate were polymerized in MeOH in the presence of H
 and Pd on BaSO₄. The H· radicals that were formed
 initiated the polymerization. Acrylonitrile, styrene, and
 vinyl acetate required a peroxide in addn. to the activated
 H. The rates of these reactions were measured.

Millard Maienthal

Distr: 4E3d/4E2c(j)

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Geczy, I.

HUNGARY/Physical Chemistry - Kinetics. Combustion. B-9
Explosions. Topochemistry. Catalysis.

Abs Jour: Referat Zhur - Khim, No. 9, 1959, 30579

Author : Cxueroes, Z., Geczy, I., Zsuffa, B., Erdoes, E.

Inst : Not given

Title : Catalyst Studies. XX. Catalytic Hydrogenation
and Polymerization Processes as Competing Reac-
tions. II/sic/ The Redox Polymerization of
Acrylonitrile on Heterogenous Catalysts.

Orig Pub: Magyar Tud Akad Kem Tud Oszt Koezl, 1958, No 4,
415-422; Makromolek Chem, 1958, No 3, 171-179

Abstract: Quantitative relationships in the redox polyme-
rization of acrylonitrile on heterogenous cata-
lysts have been investigated. It has been found
that under optimum experimental conditions yields
of about 80% can be achieved. The molecular

Card 1/2

HUNGARY/Physical Chemistry - Kinetics. Combustion. B-9
Explosions. Topochemistry. Catalysis.

Abs Jour: Referat Zhur - Khim, No. 9, 1959, 30579

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R000514530015-7

weight of the product varies, depending on
experimental conditions, between 15,000 and
380,000. The effect of catalyst formulation,
initial persulfate concentration, and monomer
concentration on the course of the reaction
has been investigated. Persulfates are the
only effective oxidizers and Pd-catalysts were
used as the active catalysts. The molecular
weight of the product is higher when the
reaction is carried out in acid medium rather
than in alkaline medium. The product yield is
reduced at pH > 7. For Communication XIX see
RZhKhim, 1959, 26512.--S. Rozenfel'd

Card 2/2

34

HUNGARY / Physical Chemistry--Kinetics. Combustion. B-9
Explosions. Topochemistry. Catalysis.

Abs Jour : Referat Zhur--Khimiya, No. 11, 1959, 37927

Author : Csueroes, Z.; Gaczy, I.; and Czuffa, B.
Inst : Hungarian Academy of Sciences
Title : Investigation of Catalysts. XXI. Catalytic
Hydrogenation and Polymerization Processes as
Competing Reactions. III. Kinetics and Mechanism of the Catalytic Redox Polymerization of
Acrylonitrile.

Orig Pub : Magyar Tud Akad Kem Tud Oszt Koezl, 2, No. 4,
423-432 (1958) (in Hungarian); Makromolek Chem,
27, No. 3, 180-191 (1958) (in German)

Abstract : The authors have studied the polymerization of
aqueous acrylonitrile solutions under an atmo-

Card 1/3

Country : Hungary I
 Category= : High Molecular Chemistry
 Acc. Jour. : 48340
 Author : ~~Geczy, I.~~; Rethy, E.
 Institut. : Hungarian Academy of Sciences
 Title : Synthetic Linear Polymers.VII. Kinetics of Bulk
 Polymerization of Methylmetacrylate Induced by
 Systems of Initiators and Activators.
 Orig. Pub. : Magyar tud. akad. Kem. tud. oszt. kozl., 1958,
 10, No 2, 175-185

Abstract : Curves of the reaction of transformation of
 methylmetacrylate to a polymer, in all the instances under
 study (different initiator-activator systems), at 20 and 40°,
 are of identical nature: first a steep ascent, then an
 almost horizontal portion and $\sim 10-15\%$ transformation again
 a steep ascent (polymer was determined by precipitation with
 light gasoline). In the stage studied by the authors (up to
 the second ascent) reaction velocity is proportional to the
 square of monomer concentration $(M)^2$, and there is a linear
 correlation between length of time and $1/(M)$. To interpret
 these facts the authors make the assumption that during the

Card: 1/2

Country : Hungary
Category : High Molecular Chemistry

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Abs. Jour. :

48340

Author :
Institut. :
Title :

Orig Pub. :

Abstract : initial stage of the reaction the radicals that initiate the chain can also induce its termination. For this instance there has been derived the kinetic equation:
 $-d(M)/dt = k(M)^2 + k_1$. Communication VI see RZhKhim, 1959, No 2, 7027. -- I. Krishtofori.

Card: 2/2

COUNTRY : Hungary I
 CATEGORY : High Polymer Chemistry
 ABS. JOUR. : AZKhim., No. 21 1959, No. 77238
 AUTHOR : Csueroes, Z., Groszman, M., Geczy, I., and Juhasz, K.
 INST. : Hungarian Academy of Sciences
 TITLE : Rheological Investigations of High Polymers. IV. Rheological Studies on Polyvinylchloride Pastes. Part II. Effect of Temperature on Polyvinylchloride.
 ORIG. PUB. : Magyar Tud Akad Kem Tud Cszt Koezl, 10, No 4, 467-473 (1958); Acta Chim Acad Sci Hung, 19, No 1, 467-473 (1958);
 ABSTRACT : The dependence of the apparent viscosity of PVC pastes obtained by the use of dialkylphthalates as plasticizers (P) (PVC/P ratios of 60 : 40, 50 : 50, 40 : 60) on the temperature has been investigated in the temperature range 20-60°. It has been shown that the swelling point observed by Elers and Gol'dshteyn for the dilution of PVC suspensions, above which the viscosity sharply increases, also holds for the pastes tested, at lower temperatures (25-40°). At the swelling

CARD: 1/5

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COUNTRY : Hungary
CATEGORY :

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ABS. JOUR. : RZKhim., No. 21 1959, No. 77238

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : point the viscosity passes through a minimum. The character of the above dependence is explained theoretically, starting from the concept that the pastes represent heterogeneous systems consisting of the surface-swelling PVC grains as the dispersed phase and P (containing the PVC in solution) as the dispersing medium. For the compositions PVC/P = 40 : 60 and 50 : 50 the viscosity-temperature characteristic is parallel to the viscosity curve of P up to the swelling point, from which it follows that swelling does not

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| COUNTRY | : | Hungary | I |
| CATEGORY | : | | |
| AB3. JOUR. | : | AZKhim., No. 21 | 1959, No. 77238 |
| NUMBER | : | | |
| INT. | : | | |
| TITLE | : | | |
| ORIG. PUB. | : | | |
| ABSTRACT | : | <p>occur in the pastes and that the viscosity is determined by the free P which is present in excess outside the solvation envelope. For the composition 60 : 40, the decrease in the viscosity up to the swelling temperature and the increase in viscosity above that temperature are much sharper, and are explained by the higher percentage of the P bound inside the solvation envelope. An increase in temperature leads to a decrease in the amount of bound P. Above</p> | |

CARD: 3/5

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|------------|---|--|-------|
| COUNTRY | : | Hungary | I |
| CATEGORY | : | | |
| ABS. JOUR. | : | RZKhim., No. 21 1959, No. | 77238 |
| AUTHOR | : | | |
| INST. | : | | |
| TITLE | : | | |
| ORIG. PUB. | : | | |
| ABSTRACT | : | <p>the swelling point the P molecules begin to penetrate the interior of the PVC grains with a resulting decrease in the amount of free P present. The swelling temperature at which the viscosity goes through a minimum depends on the P used: It increases as the number of carbon atoms in the alkyl group is increased. In production practice, the PVC paste should be kept at temperatures 10-15° below the swelling point and used at temperatures a few degrees</p> | |

CARD: 4/5

349

COUNTRY : Hungary
CATEGORY :

I

ABS. JOUR. : RZKhim., No. 21 1959, No.

77238

AUTHOR :
JOUR. :
TITLE :

ORIG. PUB. :

ABSTRACT : below the swelling point. For Communication
III see RZKhim., 1959, no 2, 10562.

CARD: 5/5

GECZY, I.

Distr: 4E2c(j)

144. Synthetic linear polymers. Preparation of poly-methylene-glycol maleate phthalate methylmethacrylate copolymers setting at room temperature and investigation of some of their properties. (In English) I. RUSZNAK, I. GECZY, M. REPASI. *Acta Chimica Academiae Scientiarum Hungaricae*. Vol. 14, 1958, No. 1-2, pp. 61-68, 9 tabs.

Contact resins setting at room temperature (25° C) were prepared from ethylene glycol, maleic anhydride, phthalic anhydride and methylmethacrylate. Unsaturated polyester and comonomer in a proportion of 70:30 were applied. In order to harden the mixture benzoyl peroxide and diethyl aniline were used in a proportion of 1:0.25. Contact resin prepared from unsaturated polyester maleic acid-phthalic acid of 0.8:0.2 molar proportion and from methylmethacrylate showed optimum chemical properties while the copolymer free of phthalic acid showed the best mechanical properties. The time of gelatinization of the mixture obtained varied at room temperature from 3 hours to 3 min. and the time of total polymerization from 30 min. to 5 min.

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JF

Distr: 4E4j

Investigations on Catalysts, XVIII. Changes in the Order of Reaction,
With Respect to the Acceptor, During Catalytic Hydrogenation.---
Z. Csűrös, I. Géczy and T. Keresztély (Institute of Organic Chemical
Technology, Technical University, Budapest)

Received March 8, 1957
Acta Chimica-Academiae Scientiarum Hungaricae
1958, Vol 16, Nr 1, p 91

SUMMARY

On the basis of our earlier measurements it was found, in accordance with the investigations of MORRIS, LINDEN and BRANSTEN, that in the hydrogenation reaction the order of reaction with respect to the acceptor increases, in the majority of cases with the extent of reaction, whereas in certain other cases it proved to be constant, within experimental errors. The rate constant of reaction appeared to be constant during the course of the reaction, being correlated with the quantity of catalyst, as well as with the concentration of the substrate. It seems that no correlation exists in the investigated cases between the order of reaction and the quantity of the catalyst.

GECZY, I.

II. Investigations on catalysts. XIX. Changes in the sorption of hydrogen as a function of the quantity of catalyst and carrier. (In English) Z. Oszárs, I. Géczy, J. Margón. *Acta Chimica Academiae Scientiarum Hungaricae*, Vol. 16, 1958, No. 3, pp. 301-319, 6 figs., 13 tabs.

5

In the hydrogenation of cinnamic and maleic acids, when part of the palladium catalyst carried on carbon black and barium sulphate is substituted by these carriers, the rate of hydrogenation decreases. Thus the "complementary effect" observed in oxidation experiments does not appear here. The quantities of hydrogen absorbed by increasing amounts of palladium catalyst on carbon black or on barium sulphate follow a maximum-minimum curve. If, in an aqueous suspension, the amount of palladium and that of the carrier are increased or decreased at the expense of one another, hydrogen uptake follows a maximum-minimum curve.

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Investigations with catalysts. XX. Catalytic hydrogenation and polymerization as competitive reactions. 2. Heterogeneous catalytic oxidation-reduction polymerization of acrylonitrile. Z. Csuros, I. Géczy, B. Zsuffa, and B. Botos (Tech. Univ. Budapest, Hung.). *Makromol. Chem.* 27, 171-9 (1958); cf. *C.A.* 52, 18500a. The suitable selected conditions were found to reach a max. yield of 80% during the heterogeneous catalytic oxidation-reduction polymerization, and the mol. wts. of the products varied between 15,000 and 380,000 according to the exptl. conditions. The influence of the amt. of the heterogeneous catalysts, the initial concn. of the persulfate and of the monomers on the reaction was detd. Only the persulfates were found to be active among the peroxy compds., while of the heterogeneous catalysts only those were found to be effective contg. rare metal (Pd). The cation of the peroxy compd. exerted no specific effect on the reaction. Products of higher mol. wt. were formed in acid medium and of lower mol. wt. in alk. medium. The yield decreases at pH > 7. Investigations with catalysts. XXI. Catalytic hydrogenation and polymerization as competitive reactions. 3. Kinetics and mechanisms of the heterogeneous catalytic oxidation-reduction polymerization of acrylonitrile. Z. Csuros, I. Géczy, and B. Zsuffa (Tech. Univ. Budapest, Hung.). *Ibid.* 189-91. Polymerization of acrylonitrile in aq. soln. and in H atm. with $K_2S_2O_8$

and Pd catalyst on $BaSO_4$ was investigated. The total rate of polymerization was shown to reach a max. with increasing monomer concn., and then decreases again, while the polymerization degree of acrylonitrile is increased when the reaction progresses. The gross rate of reaction is proportional to the sq. root of persulfate concn. A linear relationship exists between the sq. root of persulfate concn. and the reciprocal value of the polymerization degree, showing that the chain termination occurs by reaction of 2 macro radicals. No chain transfer was found to occur during the detn. of the chain transfer const. An induction period depending on the persulfate concn. was observed during reaction, and the gross rate of the reaction increases as a function of time. The polymerization was found to occur not on the surface of the catalyst but primarily within the soln., which was based on the detn. of the valid kinetic correlations for the oxidation-reduction polymerization systems. Relationship- and kinetic curves are given. 27 references. Arthur Lyem

Vinylaton by means of Grignard reaction. S. T. Ioffe. *Uspekhi Khim.* 27, 1010-21 (1958).—A review of the use of vinyl Grignard reagents; 41 references through 1957. G. M. Kosolapoff

Distr: 4E2c(j)

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Distr: 4³2c(j)

Synthetic polymers. IV. Influence of the composition of phenoplast resins on their condensation and mechanical properties. Rudolf Balló and István Geczy (Tech. Univ., Budapest). *Magyar Kém. Folyóirat* 63, 361-7 (1958); cf. C.A. 52, 8013c, 15110c.—The influence of the phenol-formaldehyde ratio and amt. of catalysts on the properties of phenoplast resins has been investigated. The best mech. properties (hardness, impact-resistance, tearing, and thermal resistance) were obtained generally with the ratio 1 phenol: 2.5 HCHO and 1-1.5% catalyst. Larger amts. of catalyst had only a slight influence on the product properties.

Saul Patai

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Distr: 4E2c(1)

145. Synthetic linear polymers. Investigation of the setting of methyl methacrylate monomer and polymer mixtures in the presence of benzoyl peroxide by the action of tetraalkyl-diamino-diaryl activators. G. Réthy. *1. Magyar Kémiai Polyóirat*, Vol. 64, 1958, No. 4, pp. 19-23, 2 figs., 1 tab.

The activating influence of aromatic tertiary diamines was investigated on the benzoyl peroxide-initiated polymerization of methyl methacrylate at room temperature. Amines more effective than those published in technical literature were found. A very quick reaction can be obtained with these diamine activators in the polymerization of monomer-polymer mixtures. Complete curing takes place in 10–15 min, even in polymerizations carried out at 24°C. The effectiveness of the activators was compared. In addition to measuring the conversion in one hour or in the case of monomer-polymer mixtures, the time necessary for attaining the temperature maximum a new method has also been applied besides the conventional ones. Increase of internal friction produced by the polymerization process was measured in monomer-polymer mixtures by means of a microplastometer. The effectiveness of the initiator-activator system was estimated from the form of the curves representing the change of internal friction vs. time and from the incline of the curves. Use of the microplastometer has the advantage that a measurement can be quickly performed and with its aid the optimum concentrations of the employed initiator-activator systems can be determined.

~~SECRET~~ GECZY, I.

50. Studies on the rheology of macromolecular materials.
Determination of the molecular weight of polyethylene by a
viscosimetric method. Z. Csűrös, I. Géczy, M. Horváth,
Mann, V. Spicóci. Magyar Kémiai Folyóirat, Vol. 64,
1958, No. 6, pp. 166-167, 2 tabs.

The viscosities of non-fractionated polyethylene samples
of known molecular weight were measured in paraffin oil
at 85 and 140°C. The limiting viscosity values were obtained
by compensating calculation and from these also the k and
 a values of the $[\eta] = kM^a$ equation were derived by this
method. The following correlations were found between the
limiting viscosity and molecular weight:

at 85°C $[\eta] = 2.898 \cdot 10^{-4} \cdot M_w^{0.7162}$
at 140°C $[\eta] = 2.786 \cdot 10^{-4} \cdot M_w^{0.8194}$

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GECZY, A.

"Synthetic linear polymers. VII. Kinetic process of block polymerization of methyl methacrylate dissolved by initiator-activator systems." In German, p. 37

PERIODICA POLYTECHNICA. (Budapesti Muszaki Egyetem) Budapest, Hungary, Vol. 3, No.,1, 1959

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 6, June 1959
Uncl.

GECZY, I

Distr: 4E2c(j)

✓ Rheological investigations of macromolecular substances.
IV. Rheological investigations of poly(vinyl chloride) pastes. 2. Effect of temperature on poly(vinyl chloride) (PVC) pastes. Zoltan Csuros, Miklos Groszmann, Istvan Geczy, and Kalman Juhász (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 19, 65-73 (1959) (in German); cf. CA 52, 11526b. —The temp. dependence of the quasi-viscosity of poly(vinyl chloride) pastes made with dialkyl phthalate plasticizers is studied. The Ehlers-Goldstein swelling point (CA 45, 2267a) of PVC pastes is lower than that of dild. suspensions. This temp. is also the point of min. viscosity. PVC pastes are considered as heterogeneous suspensions (CA 52, 11526b), and a theoretical interpretation of the swelling point phenomenon is presented upon this basis. C. A. Buehr

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RETHY, Eszter (Budapest); GECZY, Istvan, a demiai tudományok kandidátusa
(Budapest)

Synthetic linear polymers. VIII. Application of metal resins in
the block polymerization accelerated by methyl methacrylate metal
redox systems. Kem tud kozl MTA 13 no.2:173-178 '60. (EEAI 9:8)

1. Szerves Vegyipari es Muanyagipari Kutato Intezet, Budapest es
Vegyimuveket Tervezo Vallalat, Budapest.

(Polymers and polymerization)

(Gums and resins, Synthetic) (Methyl methacrylate)

(Benzoyl peroxide) (Cyclohexyl hydroperoxide)

(Acetone peroxide) (Tvimethyl benzyl hydroperoxide)

(Benzoin) (Iron) (Lead) (Butyl hydroperoxide)

(Copper) (Cobalt) (Manganese)

CSUROS, Zoltan, akadémikus (Budapest); GECZY, Istvan, a kémiai tudományok kandidátusa (Budapest); GARA, Miklós, a kémiai tudományok kandidátusa (Budapest); GYURKOVICS, Ida (Budapest)

Rheologic investigation of macromolecular substances. VIII. Interaction of dissolved polymer and solvent on the basis of viscosity measurements. Kem tud kozl MTA 13 no.2:139-151 '60. (EEAI 9:8)

1. Műszaki Egyetem, Szerves Kémiai Technológiai Intézet, Budapest.
(Solvents) (Viscosity)

KOMUVES, E.(Frau)(Budapest, Muegyetem rakpart 3); GECZY, I., dr. (Budapest I.,
Kuny D.u.l.)

Synthetic linear polymers. X. Castor oil containing unsaturated polyester resins and their copolymers. Periodica polytechn chem 5 no.1: 25-34 '61.

1. Lehrstuhl für die Kunststoff- und Gummiindustrie and der Technischen Universität, Budapest. Vorgelegt vom Vorstand des Lehrstuhls Dr.Gy. Hardy.

CSUROS, Z., prof. (Budapest XI., Muegyetem rakpart 3.); GARA, M. (Budapest XI., Muegyetem rakpart 3.); GYURKOVICS, I. (Budapest XI., Muegyetem rakpart 3.); GECZY, I. (Budapest IX., Szamuely utca 30-32.)

Investigation of the interaction between dissolved polymers and solvents by means of viscosimetry. Periodica polytechn chem 5 no.2:101-121 '61.

1. Lehrstuhl fur Organisch-Chemische Technologie, Technische Universitat, Budapest. (for Csuros, Gara, Gyurkovics). 2. Vegyimuveket Tervezo Vallalat, Budapest. (for Geczy).

CSUROS, Z., prof. (Budapest XI., Muegyetem rakpart 3.); MORGOS, J. (Budapest XI., Muegyetem rakpart 3.); LOSONCZI, B. (Budapest XI., Muegyetem rakpart 3.); GECZY, I. (Budapest XI., Szamuely utca 30-32.)

Investigation of correlation between the inhibitor effect and chemical constitution. Periodica polytechn chem 5 no.2:123-137 '61.

1. Lehrstuhl fur Organisch-Chemische Technologie, Technische Universitat, Budapest. (for Csuros, Morgos, Losonczi) 2. Vegyimuveket Tervezo Vallalat, Budapest. (for Geczy).

SOMOGYI, Agnes (Budapest); ÖECZY, Istvan, a kémiai tudományok kandidátusa
(Budapest); DOBO, Janos (Budapest)

Synthetic linear polymers. IX. Radiation hydrated copolymerization
in presence of benzoyl peroxide-dimethylaniline. Kem tud kozl MTA
15 no.1:17-28 '61. (EEAI 10:6)

1. Szerves Vegyipari és Muanyagipari Kutató Intézet, Budapest és
Vegyiműveket Tervező Vállalat, Budapest.

(Polymers and polymerization) (Radiation)
(Hydration) (Dimethylaniline) (Benzoyl peroxide)

SOMOGYI, Agnes (Budapest, XIV., Hungaria korut 114.); GECZY, Istvan, dr.
(Budapest, I., Kuny Domokos u.1.); DOBO, Janos (Budapest, XIV.,
Hungaria korut 114.)

Synthetic linear polymers.IX. Acta chimica Hung 33 no.3:327-339
'62.

1. Forschungsinstitut fur die Plastindustrie, Budapest, und
Unternehmen zur Planung chemischer Betriebe, Budapest.

GERZY, Istvan, a kémiai tudományok kandidátusa

Adsorption of macromolecules. Kem tud kozl MTA 19 no.3:335-353
'63.

1. Textilipari Kutató Intézet, Budapest.

GECZY, Istvan

Synthetic linear polymers. Pt. 11. Magyar kem. fel. 69 no. 7: 312-317 J1 '63.

1. Textilipari Kutató Intézet, Budapest.

HUNGARY

GECZY, Istvan; Research Institute of the Textile Industry (Textilipari Kutató Intézet), Budapest.

"Synthetic Linear Polymers, XIII. Changes in the Refractive Index of Polymer Homologues With Molecular Size."

Budapest, Magyar Kémiai Folyóirat, Vol 69, No 8, Aug 1963, pages 333-336.

Abstract: [Author's Hungarian summary] Based on the additive property of molar refractivity, as defined by Eisenlohr, the author has shown the following relation to exist between the refractive index and molecular weight of members of polymer homologue series:

$$n_D^{20} = \frac{a}{M} + b$$

where n_D^{20} is the refractive index, M is the molecular weight and a and b are constants characteristic of the end groups or repeating units. From the values of b of a given polymer homologue series, the molar refractivity values can be determined. Under favorable conditions, this correlation can be developed to a method for molecular weight determination of macromolecules. 2 Eastern European, 8 Western references.

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GECZY, Istvan

Synthetic linear polymers. Pt. 13. Magyar kem folyoir 70
no. 2:91-95 F '64.

1. Textilipari Kutato Intezet, Budapest.

GECZY, Istvan

Synthetic linear polymers.Pt.14. Magyar folyoir 70 no.3:99-104
Mr '64.

1. Research Institute of the Textile Industry, Budapest.

GECZY, Istvan

Synthetic linear polymers. Pt. 15. Magy kem folyoir 70 no. 4:
156-160 Ap '64.

1. Research Institute of the Textile Industry.

GECZY, Istvan

Synthetic linear polymers. Pts. 16-17, 19. Magyar
folyoir 70 no. 6:242-252 Je '64.

1. Research Institute of the Textile Industry, Budapest.

GECZY, Istvan

Synthetic linear polymers. Pt.21. Magyar kem folyoir 71 no.2:
51-54 F '65.

1. Research Institute of Textile Industry, Budapest.
Submitted May 29, 1964.

GETSI, I. [Geczy, I.]

Dependence of the refraction index on the intermediate molecular weight in the polymer homologous series of some high molecular compounds. Vysokom. soed. 7 no.4:642-646 Ap '65.

(MIRA 18:6)

1. Nauchno-issledovatel'skiy institut tekstil'noy promyshlennosti, Budapesht, Vengriya.

ACC NR: AT6031105

SOURCE CODE: HU/2502/65/043/002/0131/0140

AUTHOR: Geczy, Istvan—Gecsi, I. (Doctor)ORG: Research Institute of the Textile Industry, Budapest (Textilipari Kutatointezet)TITLE: Synthetic linear polymers. XXII. Dependence of the specific polar properties of polymer homologue compounds on the size of the molecule

SOURCE: Academia scientiarum Hungaricae. Acta chimica, v. 43, no. 2, 1965, 131-140

TOPIC TAGS: linear polymer, dipole moment

ABSTRACT: The equation, $\varphi_{sp} = \frac{a}{M} + b$ (where φ_{sp} is a specific property, M the molecular weight, while a and b are constants), derived earlier by the author, was applied to the description of the specific polar properties of macromolecules. In case of macromolecules without dipole moment, the term $\epsilon - 1/\epsilon + 2$. $1/d$ is to be introduced into the former equation as specific property sp ; with dipole moment, μ^2/M is applied. It follows from the use of this formula that the dipole moment of alcohols and similar type compounds is independent of the structure and size of the molecule within the same group of compounds under consideration. Based on the value of constant b of the equation which is characteristic of the repeat chain members, the mean dipole moments of the repeating units of polyethyl siloxanes, polymethyl (acetoxymethyl) hexamethylsiloxanes and polyethylene glycols (0.62, 1.18 and 1.05 D, respectively) were given. Based on the results, macromolecules can be classified into three groups with respect to polar properties: $\mu = 0$; $\mu \neq f(M)$; and $\mu = f(M)$. Orig. art. has: 5 figures, 6 formulas and 2 table. [Based on author's Eng. abst.] [JPRS: 33,540]

SUB CODE: 07, 20 / SUBM DATE: 23Sep64 / ORIG REF: 009 / SOV REF: 003

OTH REF: 012

Card 1/1

L 47420-66 EXP()/T RM
ACC NR: A6034996

SOURCE CODE: HU/0005/65/071/012/0551/0556

GECZY, Istvan; Research Institute of the Textile Industry (Textilipari Kutató Intézet), Budapest.

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B

"Synthetic Linear Polymers XXIII. Comparison of Some Specific Limiting Values of Linear and Cyclic Polymer Homologue Oligomer Compounds." This paper was presented at the International Macromolecular Symposium held in Prague on 4 September 1965, Budapest, Magyar Kémiai Folyóirat, Vol 71, No 12, Dec 65, pages 551-556.

Abstract: [Authors' German summary modified] Examination of the equation $\varphi_{sp} = \frac{a}{M} + b$, valid for linear polymer homologue compounds, indicated that it can be expanded to represent cyclic polymer homologue compounds as well. φ_{sp} represents some "specific" property which can be derived from some additive quantity, M = molecular weight, while a characterizes implicitly the end groups and b explicitly the members of the chain. In cases of cyclic polymer homologue compounds when its value is other than 0, the constant a can not be evaluated and can only be looked upon as an empirical constant. The constant b is characteristic of the chain members in this case as well and, apart from the case of the specific square dipole moment, can be evaluated and calculated just as in the case of a linear polymer homologue compound. In connection with the dipole moment, it follows from this phenomenon that, in the case of polymethyl-siloxanes, the chain member present in the ring has a smaller torsion than the corresponding linear one. Orig. art. has: 10 figures, 3 formulas and 3 tables. [JPRS: 34,518]

TOPIC TAGS: linear polymer, oligomer, siloxane

SUB CODE: 07 / SUBM DATE: 10May65 / ORIG REF: 010 / SOV REF: 002 / OTH REF: 003

Card 1/1 vlr

0927 1509

ROBICSEK, Ferenc, dr.,; GECZY, Janos,

New type of manometric registration. Orv. hetil. 96 no.24:664-665
12 June 55.

1. A Budapesti Orvostudományi Egyetem Sebész-továbbképző
Klinikájának (Igazg.: Littmann Imre dr. egyet. tanár)
közleménye.
(MANOMETER)

MESZAROS, Istvan; NEMES, Mihaly; SAS, Bela; GECZY, Karoly

Autumn agricultural work. Mezogasd techn 3 no.10:1-3 '63.

1. Foldmuvelesugyi Miniszterium Gepesitesi es Gepallomasi
Foigazga toszaganak helyettes vezetoje (for Messaros). 2. Mezo-
gaszdasagi Gepjavito Troszt igazgatoja (for Nemes). 3. Csongrad
megyei Tanacs Vegrehajto Bizottsaga Mezogaszdasagi Osztaly
vezetoje (for Sas). 4. Foldmuvelesugyi Miniszterium Allami
Gaszdasagok Foigaszgatosaganak osztalyvezetoje (for Geczy).

GECZY, I.

GECZY, I. Sulfur balance from distillation of brown coal and processing of tar at low temperatures. p. 25.

Vol. 11, No. 1, Jan. 1956

MAGYAR KEMIKUSCK LAPJA.

TECHNOLOGY

Budapest, Hungary

So: East European Accession, Vol. 5, No. 5, May 1956

HUNGARY/Chemistry of High Molecular Substances.

I

Abs Jour: Referat. Zhurnal Khimiya, No 21, 1958, 72806.

Author : Z. Gsuros, L. Geczy, M. Grossmann, K. Juhasz.

Inst :

Title : Rheological Study of Macromolecular Substances.
I. Comparison of Properties of Printer's Starch
and Gelatin Roller Masses Based on Their Theological
Behavior.

Orig Pub: Period. polytechn., 1, No 2, 105-129.

Abstract: The rheological properties of printer's roller
masses based on starch and gelatin were studied.
The measurements were carried out with a Heppler
consistometer. The highest and the lowest points
of the flow curve, the viscosity and the elasticity
of used masses were determined. Their rheological

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HUNGARY/Chemistry of High Molecular Substances.

I

Abs Jour: Referat. Zhurnal Khimiya, No 21, 1958, 72806.

classification was carried out. The flow curves of both the substances follow the equation (Herschel, Bulkley, Kolloid-Z., 1926, 39, 291) with the value of n less than 1 in the case of gelatin and more than 1 in the case of starch. The consistency of gelatin masses changes more with the temperature changes than the consistency of starch masses. The connection of the apparent viscosity of masses with the shearing stress was investigated, and the phenomenon of dilatancy was established in the case of starch masses. The dependence of elastic properties of these masses on the temperature was also studied. It was found that starch masses are harder than the gelatin ones. The starch masses have plasto-elastic properties at temperatures below 40° and visco-elastic properties at temperatures above

Card : 2/3

HUNGARY/Chemistry of High Molecular Substances.

K

Abs Jour: Referat. Zhurnal Khimiya, No 21, 1958, 72806.

40°. The gelatin masses are visco-elastic at temperatures above 30° and plasto-elastic at temperatures below 30°.

Card : 3/3

ORCZYNS-WAGY, Agnes, Dr.

Therapeutic and epidemiological significance of the virulence of isoniazid-resistant bacteria. Tuberkulozis 10 no.10-12:241-243 Oct-Dec 57.

1. A III. ker. tbc. gondozo intezet (kozponti igazgato-foorvos: Szakkay Antal dr., vezeto foorvos: Hajnal Tibor dr.) kozlemenye.
(ISONIAZID, eff.

on M. tuberc., decreased virulence of resistant bact. (Hun))
(MYCOBACTERIUM TUBERCULOSIS, eff. of drugs on
isoniazid, decreased virulence of resistant bact (Hun))

GAL'CHENKO, G.I.; GEDAKYAN, D.A.; TIMOFFYEV, B.I.; SKURATOV, S.M.

Standard heats of formation of $ZrCl_4$ and $HfCl_4$. Dokl. AN SSSR
161 no.5:1081-1084 Ap '65. (MIRA 18:5)

1. Submitted October 10, 1964.

24.6720

S/058/62/000/004/133/160
A061/A101

AUTHORS: Begiashvili, G., Gedalin, E.

TITLE: Cherenkov radiation of a particle moving along the axis of a cylindrical waveguide filled with an anisotropic ferroelectric

PERIODICAL: Referativnyy zhurnal, Fizika, no. 4, 1962, 15, abstract 4Zh98
("Tbilisis universitetis shormebi, Tr. Tbilissk. un-ta", 1960, v. 86, 285 - 289, Georgian; Russian summary)

TEXT: The Cherenkov radiation of a charged particle moving in a cylindrical waveguide is considered. It is assumed that the waveguide is filled with an anisotropic ferroelectric, and that its axis coincides with the optical axis of the crystal. For simplicity, the case of the particle moving along the axis of the waveguide is considered. ✓B

[Abstracter's note: Complete translation]

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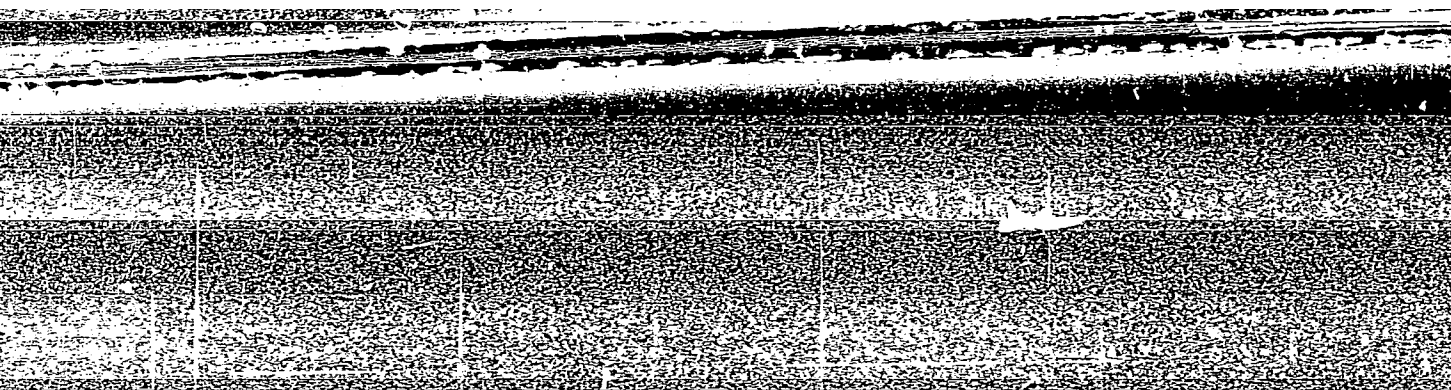
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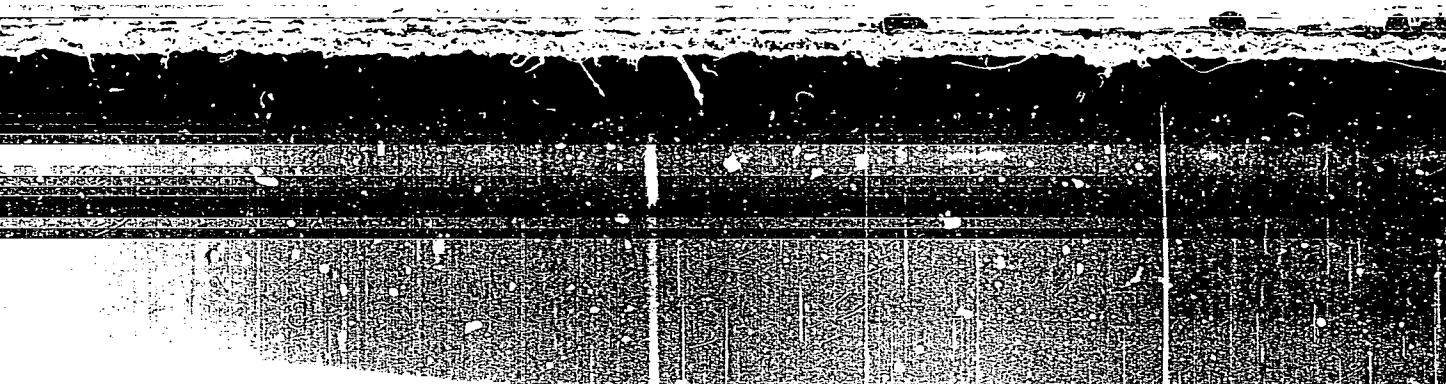


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24(5)

AUTHORS:

Begiashevili, G. A., Gedalin, E. V.

SOV/56-35-6-29/44

TITLE:

On the Motion of a Charged Particle in an Anisotropic Medium
(O dvizhenii zaryazhennoy chastitsy v anizotropnoy srede)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958,
Vol 35, Nr 6, pp 1513-1517 (USSR)

ABSTRACT:

The energy losses of charged particles moving in an anisotropic dielectric have already been investigated (Refs 1-3). Sitenko and Kolomenskiy (Refs 4, 5) investigated the generalized case in which the medium is assumed to be optically active (gyroelectric anisotropic medium). Pafomov (Ref 6) investigated the Cherenkov radiation in an anisotropic ferrite by employing a method developed by Ginzburg (Ref 1) for the investigation of Cherenkov radiation in an anisotropic dielectric. In the present paper the components of the electromagnetic field and the energy losses of the charged particle moving in a medium with double anisotropy (ϵ and μ are anisotropic) are investigated by means of the method developed by Fourier (Fur'ye) (Ref 5). Besides, the medium is assumed to be gyrotropic with respect to its electric and magnetic properties

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SOV/56-35-6-29/44
On the Motion of a Charged Particle in an Anisotropic Medium

(Ref 7). This investigation is of interest in connection with the application of anisotropic ferroelectrics for the purpose of producing microradiowaves. The authors proceed from the representation of the electromagnetic field in the medium in which a point charge q moves with the velocity \vec{v} as a Maxwell (Maksvell) system of equations. The latter is solved by the Fourier method. First, the motion of a point charge in an optically active uniaxial crystal with given tensors ϵ_{ik} and μ_{ik} is investigated. The formulae obtained are further investigated for the simple case in which the point charge moves along the optical axis. Finally, the case in which the point charge moves in the a direction that is vertical to the optical axis of the crystal is dealt with. In all cases expressions are derived for the total energy losses. In conclusion, the authors thank G. R. Khutsishvili for his valuable advice and directives. There are 7 references, 6 of which are Soviet.

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On the Motion of a Charged Particle in an Anisotropic Medium

SOV/56-35-6-29/44

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet
(Tbilisi State University)

SUBMITTED: June 28, 1958

Card 3/3

24(3)

AUTHORS:

Begiashvili, G. A., Gedalin, E. V.

SOV/56-36-6-52/66

TITLE:

The Cherenkov Radiation of a Magnetic Dipole in an Anisotropic Medium. (Cherenkovskoye izlucheniye magnitnogo dipolya v anizotropnoy srede)

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 6, pp 1939-1940 (USSR)

ABSTRACT:

The Cherenkov radiation of a punctiform magnetic dipole in an isotropic medium has already been frequently investigated (Refs 1-5). The authors of the present "Letter to the Editor" carried out similar investigations of anisotropic and gyrotropic media. By basing on the ϵ_{ik} - and μ_{ik} -tensors, the energy losses (the moment $\vec{\mu}_0$ is assumed to lie in the direction of motion) occurring as a result of Cherenkov radiation on a dipole moving along the optical axis with the velocity v are given by rather voluminous equations. For an anisotropic dielectric ($\mu_1 = \mu_3 = 1$) the radiation intensity differs from that of the isotropic dielectric only by the substitution of ϵ_1 for ϵ . ϵ_3 does not figure in the final result. The formula for the isotropic case coincides with the well-known

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The Cherenkov Radiation of a Magnetic Dipole in an
Anisotropic Medium

SOV/56-36-6-52/66

expression derived by I. M. Frank (Ref 1). The authors finally thank N. M. Poliyevktov-Nikoladze for his interest in this investigation. There are 5 references 4 of which are Soviet.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University). Institut fiziki Akademii nauk Gruzinskoy SSR (Physics Institute of the Academy of Sciences, Gruzinskaya SSR)

SUBMITTED: February 27, 1959

Card 2/2

81669

S/056/60/038/06/04/012
B006/B056

24.2500

AUTHORS: Begiashvili, G. A., Gedalin, E. V.

TITLE: Cherenkov Radiation¹⁹ of Dipole Moments in a Medium With Spatial Dispersion

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 38, No. 6, pp. 1735-1739

TEXT: The Cherenkov radiation of charged particles in a medium with spatial dispersion has repeatedly been investigated; the present paper deals with the energy losses of particle clusters to Cherenkov radiation,²⁵ where it is assumed that the particles have electric and magnetic dipole moments and are in an isotropic non-gyrotropic medium with spatial dispersion. Further, the Cherenkov radiation of a closed current-carrying ring in such a medium is investigated. The present investigation may be useful for studying the possibilities of inciting new waves by means of the Cherenkov effect, which occur when spatial dispersion is taken into account. The authors use the mathematical symbols from Refs. 1 and 3. In a range near the natural frequency of the medium $\vec{E} = (1/\epsilon_0 + \beta n^2)\vec{D}$,

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Cherenkov Radiation of Dipole Moments in a
Medium With Spatial Dispersion

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B006/B056

and the energy losses of an arbitrarily orientated electric dipole to

Cherenkov radiation are given by
$$dF = \frac{\omega^3 d\omega}{c^2 v} \sum_i \left\{ p_z^2 + \frac{p_r^2}{2} \left(\frac{v^2}{c^2} n_i^2 - 1 \right) \right\} \left(1 - \frac{c^2}{v^2 n_i^2} \right) |1 + \beta n_i^4|^{-1}, \quad n_{1,2}^2 = -1/\epsilon_0 \beta \pm \sqrt{(1/\epsilon_0 \beta)^2 + 1/\beta^2};$$
 Cherenkov

radiation of a frequency ω occurs only if $v > c/n_1(\omega)$, and forms two cones for which the condition $\cos \theta_1 = c/vn_1(\omega)$ holds. Here, θ_1 is the angle between the direction of motion of the dipole (Oz) and the radiation. As already shown by V. L. Ginzburg, one of the roots of n_1^2 is always smaller than unity at $\beta > 0$, and Cherenkov radiation propagates on the surface of the "ordinary" cone; at $\beta < 0$, the condition $v > c/n_1(\omega)$ is satisfied for both roots, and Cherenkov radiation may propagate on the surfaces of both cones. For this case, the intensity

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Cherenkov Radiation of Dipole Moments
in a Medium With Spatial Dispersion

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B006/B056

distribution of Cherenkov radiation among the two cones is investigated (I_1 - radiation intensity on the "ordinary" cone, I_2 - on the "new" cone), and equation (6) is given. At $\epsilon_0^2 |\beta| \ll 1$ and $n_2^2 \gg n_1^2$, $I_2/I_1 \ll 1$ for dipoles orientated in the direction of motion, i.e., Cherenkov radiation occurs nearly entirely only on the ordinary cone, and for dipoles orientated perpendicular to the direction of motion, $I_2/I_1 \sim 1$.

When investigating the Cherenkov radiation of magnetic dipoles, a difference is made between current- and "true" dipoles; such dipoles are described as "true" as form magnetic poles. For the frequency range dealt with here, dF is given by equation (7) and (8), respectively, for these two types of dipole. For a current magnetic dipole $I_2/I_1 \sim 1$ for every orientation at $\epsilon_0^2 |\beta| \ll 1$, for the "true" magnetic dipoles, if the moment is in the direction of motion, $I_2/I_1 \sim 1$, and if it is perpendicular to it, $I_2/I_1 \gg 1$. For a current-carrying ring moving through the medium (I_0 - amperage, a - radius) dF is given by

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Cherenkov Radiation of Dipole Moments
in a Medium With Spatial Dispersion

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B006/B056

equation (9) if the plane of the ring is perpendicular to the direction of motion. When $a \rightarrow 0$ this formula goes over into that for a magnetic dipole. The authors finally thank N. M. Poliyevktova-Nikoladze for her interest in this investigation. There are 4 Soviet references.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University). Institut fiziki Akademii nauk Gruzinskoy SSR (Physics Institute of the Academy of Sciences of the Gruzinskaya SSR)

SUBMITTED: July 13, 1959 (initially) and February 17, 1960 (after revision)

Card 4/4

89213

S/056/61/040/001/019/037
B102/B204

3.9000 (1041, 1109, 1155, 1327)

AUTHOR: Gedalin, E. V.

TITLE: The dependence of extensive atmospheric showers on the altitude

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 40, no. 1, 1961, 178-179

TEXT: From experiments carried out by the Bristol Group, the author concludes that the absolute amount of energy transferred to pions in collisions between nucleons with $E_N \geq 10^3$ Bev and nuclei is constant and equal to ~ 50 Bev (in the c.m.s.). In consideration of this fact, the author studied the dependence of extensive atmospheric showers on the altitude, and gives a brief report on the results obtained. He further assumes that in collisions between pions and nucleons with $E_N < E_P$ ($E_P = 5 \cdot 10^3$ Bev - threshold energy) and nuclei, the pions carry away a constant part of the energy of the incident particles. When studying the interaction between

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B102/B204

The dependence of extensive...

X-particles and nuclei it is possible to assume that either the pions in the c.m.s. carry away an absolutely constant energy fraction if $E_X > E_p$, or a constant fraction of the energy of the incident particle if $E_X < E_p$, or that the fraction carried away by the pions at any value of E_X is a constant fraction of the energy of the incident particles. Using data of the Bristol Group, brief considerations concerning the spectrum of secondary particles in high-energy nuclear interactions ($dn/dE \sim E^{-1-\delta}$, $\delta = 1/2$) show that the former assumption is not in agreement with the experiment. If in collisions of nucleons with nuclei the pions carry away an absolutely constant energy in the c.m.s., it is necessary, in order to be able to explain the dependence of extensive atmospheric showers on the altitude, to assume that the X-particles produced together with these pions in such collisions (K-mesons are mainly concerned here), carry away the major part of secondary particle energy and transfer a constant part of their energy to pions in each of the following collisions. In order to obtain agreement with the experiment, one must assume that in the secondary interactions, particles that are not pions, carry away the greater part of energy in

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S/056/61/040/001/019/037
B102/B204

The dependence of extensive...

nucleon-nucleus collisions, and a constant fraction of the energy of the incident particles is transferred to ions. The author thanks I. L. Rozenal' for his instructions in the course of the work, and G. I. Zatsepin for discussing the results. There are 3 Soviet-bloc references.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics, Academy of Sciences Gruzinskaya SSR)

SUBMITTED: July 1, 1960

Card 3/3

S/056/62/043/005/021/058
B102/B104

AUTHOR: Gedalin, E. V.

TITLE: Electron-photon showers produced by high-energy muons

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,
no. 5(11), 1962, 1697-1700

TEXT: The integral spectra of electrons and photons in showers generated by muons of $E > 10^{12}$ ev are calculated taking account of the production of electron-positron pairs and the muon bremsstrahlung. Formulas are derived for the number of electrons and photons produced by a single muon, which is considered as a constant source of these. Electrons and photons are assumed to be generated only by direct pair production and by bremsstrahlung. The calculations are based on the cascade theory. The results show that in its first stage the shower develops as it would be generated by an electron of the energy E_{μ}/m . At a depth $\sim 2 \ln(E_{\mu}/\beta)$ it is already in equilibrium with the radiation generated by itself. For $E_{\mu}/\beta \sim 10^6 - 10^8$ this depth equals $22 - 32 t_0$ for an electron and $25 - 35 t_0$ for a shower

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Electron-photon showers produced by ...

S/056/62/043/005/021/058
B102/B104

generated by muon bremsstrahlung t_0 is the length of an electron radiation unit. For greater depths the number of charged particles is ~ 200 in the ground and ~ 100 in lead ($E_\mu/\beta \sim 10^6$ ev). Finally it is shown that the contribution of muonic δ -electron production to the shower formation is small for $E_\mu > 10^{12}$ ev. ✓

ASSOCIATION: Institut Fiziki Akademii nauk Gruzinskoy SSR (Institute of Physics of the Academy of Sciences Gruzinskaya SSR)

SUBMITTED: April 13, 1962

Card 2/2

ACCESSION NR: AT3012959 /

S/2749/62/008/000/0115/0123

AUTHOR: Gedalin, E. V.

TITLE: Analysis of altitude variation of extensive air showers for different models of nuclear interactions at high energies

SOURCE: AN. GruzSSR. Institut fiziki. Trudy*, v. 8, 1962, 115-123

TOPIC TAGS: extensive air showers, cosmic rays, elementary particle interactions, nuclear interactions, pions, kaons, antinucleons, altitude variation

ABSTRACT: Account is taken of the fact that at high energies ($>10^{14}$ eV) the absolute value of the c.m.s. energy transferred to pions in collisions between nucleons and nuclei is approximately constant, as is the over-all inelasticity coefficient (owing to the increase of energy transfer not to the pions but to other types of particles -- X particles). Various assumptions are made with respect to the interaction between the X particles and the nuclei. To explain the altitude variation of extensive air showers it is necessary to assume

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ACCESSION NR: AT3012959

that the X particles carry away a larger fraction of the secondary particle energy, and that in each succeeding collision they transfer a constant fraction of this energy to the pions. Most X particles are probably K mesons, but the effect of antinucleons cannot be excluded. "The author is grateful to I. L. Rozental' for directing the work and G. T. Zatsepin for a discussion of the results and for valuable remarks." Orig. art. has: 20 formulas.

ASSOCIATION: Institut fiziki AN GruzSSR (Physics Institute, AN GruzSSR)

SUBMITTED: 00

DATE ACQ: 04Oct63

ENCL: 00

SUB CODE: PH

NO REF SOV: 003

OTHER: 005

Card 2/2

L 19626-63

ENT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3007077

S/0056/63/045/003/0565/0575

AUTHORS: Gedalin, E. V.; Gerasimova, N. M.

TITLE: Fluctuation of the number of particles in electron-photon showers produced by high-energy muons

SOURCE: Zh. eksper. i teoret. fiziki, v. 45, no. 3, 1963, 565-575

TOPIC TAGS: cosmic ray, electron-photon shower, particle-number fluctuation, muons of high energy

ABSTRACT: In order to remove the ambiguity in the determination of the muon spectrum from the burst spectrum, simple expressions are obtained for the mean square number of particles in electron-photon showers produced by high-energy muons, using the cross sections of the real processes that participate in the production of the cascade. A solution independent of the radiation thickness unit is obtained under certain limitations. "The authors are grateful to I. L.

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L 19626-63

ACCESSION NR: AP3007077

Rozental' and to G. Ye. Chikovani for discussions." Crig. art. has
5 figures and 22 formulas.

ASSOCIATION: Institut fiziki Akademii nauk Gruzinskoy SSR (Phys.
Inst. Acad. Sci. Georgian SSR); Fizicheskiy institut im. P. N.
Lebedeva Akademii nauk SSSR (P. N. Lebedev Inst. Acad. Sci. SSSR)

SUBMITTED: 19Feb63

DATE ACQ: 08Oct63

ENCL: 00

SUB CODE: PH

NO REF SOV: 011

OTHER: 004

Card 2/2

GEDALIN, E.V.

Spatial distribution of nuclear-active particles in extensive
air showers. Zhur. eksp. i teor. fiz. 45 no.6:1967-1969 D '63.
(MIRA 17:2)

1. Institut fiziki AN Gruzinskoy SSR.

0820
ACCESSION NR: AR404820

S/0058/64/000/005/V025/V025

SOURCE: Ref. zh. Fizika, Abs. 5V191

AUTHOR: Gedalin, E. V.

TITLE: Concerning the role of K-mesons in the development of extended air showers

CITED SOURCE: Tr. In-ta fiz. AN GruzSSR, v. 9, 1963, 53-54

TOPIC TAGS: air shower, K meson

TRANSLATION: Two experimental methods of clarification of the K-meson's role in the development of extended air showers are offered: measurement of the energy of the μ -component of extended air showers and polarization of μ -mesons in showers.

SUB CODE: NP

ENCL: 00

Card 1/1

E. V. GEDALIN

Fluctuations of Soft Component Generated by Muons under large Absorber Thickness.

report submitted for the 8th Intl. Conf. on Cosmic Rays (IUPAP), Jaipur, India,
2-14 Dec 1963

GEDALIN, E.V.

Fluctuations of the soft component generated by μ -mesons
beneath large absorbing thicknesses. Izv. AN SSSR. Ser. fiz.
28 no.11:1873-1875 N '64. (MIRA 17:12)

1. Institut fiziki AN Gruzinskoy SSR.